

Translation

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PATENT COOPERATION TREATY

PCT/EP2002/009103



PCT

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2002P13122WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2002/009103	International filing date (day/month/year) 14 August 2002 (14.08.2002)	Priority date (day/month/year)
International Patent Classification (IPC) or national classification and IPC H04Q 7/38		
Applicant SIEMENS AKTIENGESELLSCHAFT		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>7</u> sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>5</u> sheets.</p>
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>

Date of submission of the demand 11 November 2003 (11.11.2003)	Date of completion of this report 06 July 2004 (06.07.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2002/009103

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
pages _____ 2-7 _____, as originally filed
pages _____, filed with the demand
pages _____ 1, 1a _____, filed with the letter of _____ 03 March 2004 (03.03.2004)
- ☒ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____ 1-11 _____, filed with the letter of _____ 03 March 2004 (03.03.2004)
- ☒ the drawings:
pages _____ 1/2-2/2 _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

Reference is made to the following documents:

- D1: US-A-6 104 932 (HAVINIS THEODORE)
15 August 2000 (2000-08-15)
- D2: US-A-6 104 931 (HAYES STEPHEN ET AL)
15 August 2000 (2000-08-15)
- D3: US-A-6 134 447 (ROEL-NG MAYA ET AL)
17 October 2000 (2000-10-17)
- D4: US 2002/086682 A1 (NAGHIAN SIAMAK)
4 July 2002 (2002-07-04)
- D5: WO 02/054812 A (NOKIA CORPORATION; KALL JAN
(FI); VÄNTTINEN VEIJO (FI); MUHONEN JANNE (FI))
11 July 2002 (2002-07-11).

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-11	YES
	Claims		NO
Inventive step (IS)	Claims	1-11	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-11	YES
	Claims		NO

2. Citations and explanations

1. Technical field

The invention relates to a method (claim 1) for processing a request for location data ("location request") as well as to a device (claim 11) for implementing said method, relating to a switching system via which a subscriber of a mobile radio network can be reached at that moment.

2. Prior art

The prior art (TS 123.271) cited in the application is also disclosed in all the searched documents numbered D1 to D5. This method, known from the prior art, processes location data requests as follows:

A location services client (LCS client), on the internet for example, sends a "location service request" to a location-request processing system ("gateway mobile location center, GLMC") in the mobile radio network.

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The location-request processing system then sends a request ("*routing request, SRI*") to the subscriber database (HLR).

The subscriber database responds with the address of a switching system (MSC/SGSN) via which the subscriber can be reached at that moment, in order that the location-request system can send a "*location request*" to said switching system, which forwards the request to a location-request processing system ("*mobile location center, MLC*") assigned thereto.

Said location-request processing system determines the position of the mobile terminal, for example using transit-time measurements of signals from, *inter alia*, different base stations and GPS.

According to one special embodiment, location-request processing systems can also monitor and take over "*privacy/subscription functions*", acting as a kind of "*home GMLC*". The detected position is transmitted via different stations (for example GMLC) to the LCS client.

Document D1, considered to be the closest prior art, additionally discloses a "*look-up table*" in the location-request processing system, which uses the switching-system address transmitted from the subscriber database to determine the address of the location-request processing system assigned to said switching system, in order to send the "*location request*" directly to the location-request processing system (i.e. without passing via the switching system).

3. Technical problem

The problem addressed by the invention can therefore be regarded as that of making said direct transmission possible, eliminating the need for a "look-up table", such a table being very demanding in terms of in memory capacity.

4. Invention

This problem is solved, according to the invention, in that the subscriber database of the requesting location-request processing system responds by outputting location-request processing system address data from a location-request processing system instead of the switching-system address data from a switching system if the request is from a version of the location-request processing system that expects a response in the form of the address of a switching system. Since none of the currently available documents that belong to the prior art within the meaning of PCT Rule 64 contains this solution or anything that suggests it or, in particular, that suggests the use of the "address of a further location-request processing system", which would render said solution obvious to a person skilled in the art, the invention is considered to involve an inventive step. Since industrial applicability in the relevant technical field can be assumed, the requirements of PCT Article 33(2), (3) and (4) can be considered to have been satisfied.

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Observations:

- Although documents D1 and D2 contain nothing to suggest that the subscriber database returns an address to the location-request system, which address may, for example, be the address of the aforementioned switching system, said documents suggest no alternative options and, in particular, do not suggest the claimed alternative, namely the "address of a further location-request processing system".
- In one embodiment, in order that "privacy/subscription functions" can be implemented, a version-6 subscriber database responds to the request from a version-5 location-request processing system by supplying address data from a version-6 location-request processing system which, unlike the version-5 location-request processing system, can serve as a home GMLC.

The dependent claims define advantageous embodiments of the invention according to the independent claims. Said claims therefore likewise satisfy the requirements of PCT Article 33(2), (3) and (4).

5. Observations with regard to the clarity of the international application

- 5.1 At present, owing to the omission of a definite article, the feature "location-request processing device address data" in Claim 7 is not clearly related to a previous feature. The feature in question appears to relate to the location-request processing device address data in claim 1.

5.2 The same objection applies, similarly, to the "older version of the first location-request processing device" in claim 4, which was not mentioned previously and appears to relate to the "first location-request processing device" of claim 1, and also to the "request" which is further defined in claim 6 and obviously relates to the "LCS client request" of claim 4 (and not to the "request" of the "first location-request processing device" in claim 1).

6. Observations with regard to formal defects in the application

- Pursuant to PCT Rule 11.13(m) and the PCT Guidelines, paragraph II-4.8, identical features should be identified by the same reference signs throughout the application. At present, this requirement is not satisfied by the incorrect use of reference signs "V-GMLC" and "GMLC" in claim 1 to denote, respectively, the switching-system address data and the switching system, and by the use of reference signs "HLR" (claims 1 and 8) and "HLR-R6" (Claim 5) to denote the same feature, and by the use of "H-HGMLC" instead of "MAP(H-GMLC)" in claim 7 to denote the location-request processing device address data.
- Pursuant to PCT Rule 11.13(l), all reference signs used in the description and the claims must appear in the drawings. This is not the case with regard to reference sign "V-GMLC" for the switching system in claim 1, or to "GMLC/R5" used instead of "GMLC-R5" in claim 1.

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- On page 1, the wording of lines 21-24 requires revision.
- The last two lines on page 1a are repeated in the first two lines on page 2.